

REDUCED-TANTALUM SUPERALLOY COMPOSITION  
OF MATTER AND ARTICLE MADE THEREFROM, AND  
METHOD FOR SELECTING A REDUCED-TANTALUM SUPERALLOY

ABSTRACT OF THE DISCLOSURE

5           A superalloy article has a composition consisting essentially of, in weight  
percent, from about 4 to about 12 percent cobalt, from about 3.5 to about 7  
percent tungsten, from about 2 to about 9 percent chromium, from about 0.5 to  
about 4.5 percent tantalum, from about 5.5 to about 7.5 percent aluminum, from  
0 to about 5.5 percent rhenium, from about 0.1 to about 1.2 percent titanium, from  
10   0 to about 3 percent molybdenum, from 0 to about 3 percent ruthenium, from  
about 0.5 to about 2 percent columbium, about 0.01 percent maximum boron,  
about 0.07 percent maximum carbon, from about 0.3 to about 1 percent hafnium,  
about 0.01 percent maximum zirconium, about 0.03 percent maximum yttrium,  
from 0 to about 0.5 percent vanadium, about 0.01 percent maximum cerium, and  
15   about 0.01 percent maximum lanthanum, balance nickel and impurity elements.  
The article is preferably substantially a single crystal or oriented polycrystal in a  
shape such as a gas turbine blade.